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U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK

ATTORNEY'S DOCKET NUMBER

**TRANSMITTAL LETTER TO THE UNITED STATES
DESIGNATED/ELECTED OFFICE (DO/EO/US)
CONCERNING A FILING UNDER 35 U.S.C. § 371**

449122907400

U.S. APPLICATION NO. (If known, see 37 CFR 1.5)

09/888312

INTERNATIONAL APPLICATION NO.
PCT/DE00/00127

INTERNATIONAL FILING DATE

14 January 2000

PRIORITY DATE CLAIMED

14 January 1999

TITLE OF INVENTION

METHOD FOR IMPLEMENTING MULTIPOINT CODES IN AN EXCHANGE

APPLICANT(S) FOR DO/EO/US

Walthari FUNK

Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☐ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.
4. ☒ The US has been elected by the expiration of 19 months from the priority date (PCT Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
 - a. ☒ is attached hereto (required only if not communicated by the International Bureau).
 - b. ☐ has been communicated by the International Bureau.
 - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☒ An English language translation of the International Application under PCT Article 19 (35 U.S.C. 371(c)(2)).
 - a. ☒ is attached hereto.
 - b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)).
 - a. ☐ are attached hereto (required only if not communicated by the International Bureau).
 - b. ☒ have been communicated by the International Bureau.
 - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
 - d. ☐ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☐ An English language translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11. to 16. below concern document(s) or information included:

11. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☒ An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☒ A FIRST preliminary amendment.
14. ☐ A SECOND or SUBSEQUENT preliminary amendment.
15. ☐ A substitute specification.
16. ☐ A change of power of attorney and/or address letter.
17. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825
18. ☐ A second copy of the published international application under 35 U.S.C. 154(d)(4).
19. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
20. ☒ Other items or information: 1. International Search Report 2. IPER 3. Application Data Sheet 4. Return receipt postcard.

CERTIFICATE OF HAND DELIVERY

I hereby certify that this correspondence is being hand filed with the United States Patent and Trademark Office in Washington, D.C. on July 16, 2001.

LaVerne Washington

U.S. APPLICATION NO. (if known, see 37 CFR 1.212) Not yet Assigned

097889312

INTERNATIONAL
APPLICATION NO. PCT/DE00/00127ATTORNEY'S DOCKET
NUMBER: 449122007400

- 21.
- ☒
- The following fees are submitted:

BASIC NATIONAL FEE (37 CFR 1.492(a)(1)-(5)):

Neither international preliminary examination fee (37 CFR 1.482)
nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO
and International Search Report not prepared by the EPO or JPO.....\$1,000.00

International preliminary examination fee (37 CFR 1.482) not paid to
USPTO but International Search Report prepared by the EPO or JPO.....\$860.00

International preliminary examination fee (37 CFR 1.482) not paid to USPTO
but international search fee (37 CFR 1.445(a)(2)) paid to USPTO.....\$710.00

International preliminary examination fee (37 CFR 1.482) paid to USPTO
but all claims did not satisfy provision of PCT Article 33(1)-(4).....\$690.00

International preliminary examination fee (37 CFR 1.482) paid to USPTO
and all claims satisfied provisions of PCT Article 33(1)-(4).....\$100.00

CALCULATIONS
PTO USE ONLY**ENTER APPROPRIATE BASIC FEE AMOUNT =**

\$860.00

Surcharge of **\$130.00** for furnishing the oath or declaration later than ☐ 20 ☐ 30 months from
the earliest claimed priority date (37 CFR 1.492(e)).

\$0

CLAIMS**NUMBER FILED****NUMBER EXTRA****RATE**

\$0

Total claims

5 - 20 =

0

x \$18.00

\$0

☒ Independent claims

1 - 3 =

0

x \$80.00

\$0

☒ MULTIPLE DEPENDENT CLAIM(S) (if applicable)

+ \$270.00

\$0

TOTAL OF ABOVE CALCULATIONS =

\$860.00

- ☐ Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced
by 1/2.

\$0

SUBTOTAL =

\$860.00

Processing fee of **\$130.00** for furnishing the English translation later than
☐ 20 ☐ 30 months from the earliest claimed priority date (37 CFR 1.492(f)).

+

\$0

TOTAL NATIONAL FEE =

\$860.00

Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be
accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). **\$40.00 per property**

+

\$40.00

TOTAL FEES ENCLOSED =

\$900.00

Amount
to be
refunded:
\$

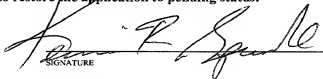
charged: \$

- a. ☒ Please charge my **Deposit Account No. 03-1952** in the amount of \$900.00 to cover the above fees. A duplicate copy of
this sheet is enclosed. *please reference 449122007400*
- b. ☒ The Commissioner is hereby authorized to charge any additional fees that may be required, or credit any overpayment to
Deposit Account No. 03-1952. A duplicate copy of this sheet is enclosed.

NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive
(37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.

SEND ALL CORRESPONDENCE TO:

Kevin R. Spivak
Morrison & Foerster LLP
2000 Pennsylvania Avenue, N.W.
Washington, D.C. 20006-1888



SIGNATURE

Kevin R. Spivak
Registration No. 43,148

09/889312

PATENT

Docket No. 449122007400

1018 Rec'd PCT/PTO 16 JUL 2001

CERTIFICATE OF HAND DELIVERY

I hereby certify that this correspondence is being hand filed with the United States Patent and Trademark Office in Washington, D.C. on July 16, 2001.

LaVerne Whittington

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In the application of:

Walthari FUNK

Serial No.: Not yet Assigned

Filing Date: July 16, 2001

For: METHOD FOR IMPLEMENTING
MULTIPOINT CODES IN AN
EXCHANGE

Examiner: Not yet Assigned

Group Art Unit: Not yet Assigned

PRELIMINARY AMENDMENT

Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to examination on the merits, please amend this application as follows:

In the Specification:

On page 1 before the first paragraph, please delete the following:

Description

On page 1, between lines 4 and 5 has been amended to include the following:

CLAIM FOR PRIORITY

This application claims priority to International Application No. PCT/DE00/00127 which was published in the German language on January 14, 2000.

TECHNICAL FIELD OF THE INVENTION

The invention relates to a method for implementing multiple point codes in a switching center, and in particular, to a method in both network consolidation and connection of other network providers in a preexisting network.

BACKGROUND OF THE INVENTION

On page 6, between lines 7 and 8 has been amended to include the following:

SUMMARY OF THE INVENTION

In one embodiment of the invention, there is a method for implementing multiple point codes in a switching center with a message transfer part for transmitting/receiving signaling data in a multiplicity of isolated message transfer part areas for isolated signaling networks having different network identifications and a different or nonexistent point code, comprising selecting a used message transfer part area, detecting the network identification of a used message transfer part area, selecting an unused message transfer part area, setting up or adapting the a network identification of the unused message transfer part area to the network identification of the used

message transfer part area, assigning a new point code for the unused message transfer part area; and connecting a loop between the used and unused message transfer part areas.

In one aspect of the invention, the signaling networks are signaling networks in the common channel signaling system No. 7 and the signaling data are message signal units.

In another aspect of the invention, the loop is an external connecting cable.

In still another aspect of the invention, the loop is an internal CCS7 loop.

In yet another aspect of the invention, the loop is implemented by a software patch.

BRIEF DESCRIPTION OF THE DRAWINGS

In the text which follows, the invention will be explained in greater detail by exemplary embodiments and referring to the drawings, in which:

Figure 1 shows a simplified block diagram of a signaling network according to a first exemplary embodiment.

Figure 2 shows a simplified block diagram of a conventional communication network to be consolidated.

Figure 3 shows a simplified block diagram of a consolidated communication network according to a second exemplary embodiment.

Figure 4 shows a simplified block diagram of a conventional communication network.

Figure 5 shows a section of a message signal unit transmitted in the signaling network.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Please replace the paragraph beginning on line 8 of page 6 with the following rewritten paragraph:

The invention discloses a method for implementing multiple point codes in a switching center, in which a minimal and inexpensive modification of switching centers already existing is sufficient.

Please delete lines 6 and 7 of page 6.

Please replace the paragraph beginning on line 15 of page 6 with the following rewritten paragraph:

A multiple point code can be implemented in an extremely simple and inexpensive manner in the switching center especially by adapting a network identification in an unused message transfer part area to a network identification of a used message transfer part area, assigning a new point code for the unused message transfer part area and connecting a loop between the used and unused message transfer part areas. This implementation of multiple point codes is important, especially in the market of alternative carriers, for the following reasons:

Please replace the paragraph beginning on line 26 of page 6 with the following rewritten paragraph:

1. A remotely controlled switching center (RSU) is an interesting product for network consolidation. A prerequisite for this, however, is a separate address (point code) for each RSU. In the future, a network operators may only be recognized as being such (and thus enjoy the advantageous interconnection tariffs) if a minimum number of points of interconnection (POIs) to the network provider is available. For long distance carriers, for example, the demand for 23 POIs seems to be gaining dominance. To avoid difficulties, POIs should therefore be addressable with different destination point codes (DPCs).

Please replace the paragraph beginning on line 6 of page 7 with the following rewritten paragraph:

2. In the reseller process, one switching center is used by two carriers having different carrier access codes (CACs). In the future, however, certain carriers may only agree to an interconnection if each CAC can also be addressed with its own destination point code.

Please delete lines 18-28 of page 7.

Please delete lines 1-4 of page 8.

Please replace the paragraph beginning on line 8 of page 9 with the following rewritten paragraph:

More precisely, a message transfer part 3' comprises a multiplicity of message transfer part areas 24, 25 etc. As has already been described above, these message transfer part areas define the different ITU networks and are selected by the network identification NI in the message signal unit MSU. The Siemens EWSD switching center V12, for example, has exactly one point code PC (address) per ITU network Nat0, Nat1, INat0 and INat1. Normally, the message transfer part areas 24, 25 etc. are strictly separated in a switching center for the ITU networks Nat0, Nat1, INat0 and INat1, since direct switching or linking of these networks should not be carried out under any circumstances.

Please replace the paragraph beginning on line 3 of page 10 with the following rewritten paragraph:

At first, a used message transfer part area is selected. According to figure 1, this is the message transfer part area 24 which is already used for the ITU network Nat0 by network provider Y. Then an unused message transfer part area 25 is selected which was originally provided, for example, for the network identification Nat1 or any other idle (internal) network. Next, the network identification Nat1 of the unused message transfer part area 25 is adapted to the network identification Nat0 of the used message transfer part area 24. This means that the message transfer part area 25 is set up or modified in such a manner that it identifies itself with network identification Nat0 toward the outside even though it operates separately from the network internally. This ensures that the strict isolation of the message transfer part areas 24 and

25 is still retained internally (as in the case of ITU networks Nat0 and Nat1). After the network identification NI in the unused message transfer part area 25 has been adapted, a new point code PC = 5999 is assigned to this area, as a result of which the access point for the network of the network provider X receives a permanently defined address. Finally, a loop 23 is connected to the signaling outputs of the message transfer part areas 24 and 25, as a result of which a direct connection is effected between the message transfer part areas 24 and 25 which are strictly isolated per se.

Please replace the paragraph beginning on line 31 of page 10 with the following rewritten paragraph:

The loop 23 can be connected, for example, via an external connecting cable. The connecting cable can be either a PCM30 cable and connected directly to the PCM30 line accesses of the switching center, the signaling channels being transmitted. On the other hand, the loop can also be produced via a direct connection of the signaling terminal without involving the switching center peripherals.

Please replace the paragraph beginning on line 8 of page 12 with the following rewritten paragraph:

According to the invention, both the network provider X and the network provider Y can thus access the ITU signaling network Nat0 and directly select the addresses stored there. From the point of view of the external observer, this provides access to the switching center by a number of point codes, i.e. addressing by a number of signaling point codes.

Please replace the paragraph beginning on line 16 of page 12 with the following rewritten paragraph:

Figure 2 shows a simplified block diagram of a conventional communication network which is consolidated in a simple manner by the present invention. The communication network

according to figure 2 includes the four switching centers 19, 20, 21 and 22. Switching centers 19 to 22 are connected to one another via CCS7 links and operate with the network identification NI = Nat0. Switching centers 19 and 22 and switching centers 20 and 21 are in each case connected via CCS7 trunks.

Please replace the paragraph beginning on line 32 of page 12 with the following rewritten paragraph:

Figure 3 shows a simplified block diagram of the communication network according to figure 2, where the required network consolidation has been carried out according to the invention. As in figure 2, reference symbols 21 and 22 designate the switching centers with point codes PC=C and D. However, reference symbol 20' now designates a remote switching unit RSU B in which the intelligent switching functions have been relocated into switching center 19'. Thus, it establishes the access to the subscriber terminals but does not otherwise have any complex switching functions.

Please replace the paragraph beginning on line 3 of page 14 with the following rewritten paragraph:

To implement the consolidation according to figure 3, a link 26 is established between the remote switching unit 20' (RSUB) and the switching center 19' by means of multiple point codes if these are not already present. The modified switching center 19' now operates as host (PC=A) and additionally takes over the switching function of the previous switching center 20 (PC=B). The previous link LS4 (Nat0) according to figure 2 is implemented by the loop 23 according to figure 3 and the previous link LS1 (Nat0) according to figure 2 is replaced by the links LS1 and LS1' (Nat0) according to figure 3. In this arrangement, the links LS1 and LS1' represent a common link with the originating/destination objects 21 and 25, the remote switching unit 20' (RSU) remaining transparent and not being able to feed in its own signaling.

On page 16, line 1, please replace "Patent Claims" with --WHAT IS CLAIMED IS--.

In the Claims:

1. (Amended) A method for implementing multiple point codes in a switching center with a message transfer part for transmitting/receiving signaling data in a multiplicity of isolated message transfer part areas for isolated signaling networks having different network identifications and a different or nonexistent point code, comprising:

selecting a used message transfer part area;
detecting the network identification of a used message transfer part area;
selecting an unused message transfer part area;
setting up or adapting the network identification of the unused message transfer part area to the network identification of the used message transfer part area;
assigning a new point code for the unused message transfer part area; and
connecting a loop between the used and unused message transfer part areas.

2. (Amended) The method as claimed in claim 1, wherein the signaling networks are signaling networks in the common channel signaling system No. 7 and the signaling data are message signal units.

3. (Amended) The method as claimed in claim 1, the loop is an external connecting cable.

4. (Amended) The method as claimed in claim 2, wherein the loop is an internal CCS7 loop.

5. (Amended) The method as claimed in claim 4, wherein the loop is implemented by a software patch.

REMARKS

The above amendments to the specification, claims and abstract have been made to place the application in proper U.S. format and to conform with proper grammatical and idiomatic English. None of the amendments herein are made for reasons related to patentability. No new matter has been added.

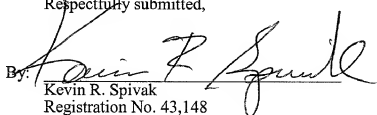
Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version with markings to show changes made**".

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. 449122007400. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

Respectfully submitted,

Dated: July 16, 2001

By:


Kevin R. Spivak
Registration No. 43,148

Morrison & Foerster LLP
2000 Pennsylvania Avenue, N.W.
Washington, D.C. 20006-1888
Telephone: (202) 887-6924
Facsimile: (202) 263-8396

VERSION WITH MARKINGS TO SHOW CHANGES MADE

For the convenience of the Examiner, the changes made are shown below with deleted text in strikethrough and added text in underline.

In the Specification:

Page 1 before the first paragraph, please delete the following:

~~Description~~

Page 1, between lines 4 and 5 has been amended to include the following:

CLAIM FOR PRIORITY

This application claims priority to International Application No. PCT/DE00/00127 which was published in the German language on January 14, 2000.

TECHNICAL FIELD OF THE INVENTION

The invention relates to a method for implementing multiple point codes in a switching center, and in particular, to a method in both network consolidation and connection of other network providers in a preexisting network.

BACKGROUND OF THE INVENTION

Page 6, between lines 7 and 8 has been amended to include the following:

SUMMARY OF THE INVENTION

In one embodiment of the invention, there is a method for implementing multiple point codes in a switching center with a message transfer part for transmitting/receiving signaling data in a multiplicity of isolated message transfer part areas for isolated signaling networks having

different network identifications and a different or nonexistent point code, comprising selecting a used message transfer part area, detecting the network identification of a used message transfer part area, selecting an unused message transfer part area, setting up or adapting the a network identification of the unused message transfer part area to the network identification of the used message transfer part area, assigning a new point code for the unused message transfer part area, and connecting a loop between the used and unused message transfer part areas.

In one aspect of the invention, the signaling networks are signaling networks in the common channel signaling system No. 7 and the signaling data are message signal units.

In another aspect of the invention, the loop is an external connecting cable.

In still another aspect of the invention, the loop is an internal CCS7 loop.

In yet another aspect of the invention, the loop is implemented by a software patch.

BRIEF DESCRIPTION OF THE DRAWINGS

In the text which follows, the invention will be explained in greater detail by exemplary embodiments and referring to the drawings, in which:

Figure 1 shows a simplified block diagram of a signaling network according to a first exemplary embodiment.

Figure 2 shows a simplified block diagram of a conventional communication network to be consolidated.

Figure 3 shows a simplified block diagram of a consolidated communication network according to a second exemplary embodiment.

Figure 4 shows a simplified block diagram of a conventional communication network.

Figure 5 shows a section of a message signal unit transmitted in the signaling network.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

Paragraph beginning on line 8 of page 6 has been amended as follows:

The invention is, ~~therefore, based on the object of specifying~~ discloses a method for implementing multiple point codes in a switching center, in which a minimal and inexpensive modification of switching centers already existing is sufficient.

Paragraph beginning on line 13 of page 6 has been amended as follows:

~~According to the invention, this object is achieved by means of the measures of claim 1.~~

Paragraph beginning on line 15 of page 6 has been amended as follows:

A multiple point code can be implemented in an extremely simple and inexpensive manner in the switching center especially by adapting a network identification in an unused message transfer part area to a network identification of a used message transfer part area, assigning a new point code for the unused message transfer part area and connecting a loop between the used and unused message transfer part areas. This implementation of multiple point codes is ~~very~~ important, especially in the market of alternative carriers, for the following reasons:

Paragraph beginning on line 26 of page 6 has been amended as follows:

1. A remotely controlled switching center (RSU) is an ~~extremely~~ interesting product for network consolidation. A prerequisite for this, however, is a separate address (point code) for each RSU. Especially in In the future ~~in Germany~~, a network operators ~~will~~ may only be recognized as being such (and thus enjoy the advantageous interconnection tariffs) if a minimum number of points of interconnection (POIs) to the network provider is available. For long distance carriers, for example, the demand for 23 POIs seems to be gaining dominance. To avoid difficulties, ~~all~~ POIs should therefore be addressable with different destination point codes (DPCs).

Paragraph beginning on line 6 of page 7 has been amended as follows:

2. In the reseller process, one switching center is used by two carriers having different carrier access codes (CACs). In the future, however, certain carriers ~~will~~ may only agree to an interconnection if each CAC can also be addressed with its own destination point code.

Paragraph beginning on line 16 of page 7 has been amended as follows:

~~Advantageous embodiments of the invention are characterized in the subclaims:~~

Paragraph beginning on line 18 of page 7 has been amended as follows:

~~In the text which follows, the invention will be explained in greater detail by means of exemplary embodiments and referring to the drawing, in which:~~

Paragraph beginning on line 21 of page 7 has been amended as follows:

~~figure 1 shows a simplified block diagram of a signaling network according to a first exemplary embodiment;~~

Paragraph beginning on line 24 of page 7 has been amended as follows:

~~figure 2 shows a simplified block diagram of a conventional communication network to be consolidated;~~

Paragraph beginning on line 26 of page 7 has been amended as follows:

~~figure 3 shows a simplified block diagram of a consolidated communication network according to a second exemplary embodiment;~~

Paragraph beginning on line 1 of page 8 has been amended as follows:

~~figure 4 shows a simplified block diagram of a conventional communication network;~~

and

Paragraph beginning on line 3 of page 8 has been amended as follows:

~~figure 5 shows a section of a message signal unit transmitted in the signaling network.~~

Paragraph beginning on line 8 of page 9 has been amended as follows:

More precisely, a message transfer part 3' ~~consists of~~ comprises a multiplicity of message transfer part areas 24, 25 etc. As has already been described above, these message transfer part areas define the different ITU networks and are selected by the network identification NI in the message signal unit MSU. The Siemens EWSD switching center V12, for example, has exactly one point code PC (address) per ITU network Nat0, Nat1, INat0 and INat1. Normally, the message transfer part areas 24, 25 etc. are strictly separated in a switching center for the ITU networks Nat0, Nat1, INat0 and INat1, since direct switching or linking of these networks should not be carried out under any circumstances.

Paragraph beginning on line 3 of page 10 has been amended as follows:

At first, a used message transfer part area is selected. According to figure 1, this is the message transfer part area 24 which is already used for the ITU network Nat0 by network provider Y. Then an unused message transfer part area 25 is selected which was originally provided, for example, for the network identification Nat1 or any other idle (internal) network. ~~In the next step~~ Next, the network identification Nat1 of the unused message transfer part area 25 is adapted to the network identification Nat0 of the used message transfer part area 24. This means that the message transfer part area 25 is set up or modified in such a manner that it identifies itself with network identification Nat0 toward the outside even though it operates separately from the network internally. This ensures that the strict isolation of the message transfer part areas 24 and 25 is still retained internally (as in the case of ITU networks Nat0 and Nat1). After the network identification NI in the unused message transfer part area 25 has been adapted, a new point code PC = 5999 is assigned to this area, as a result of which the access point for the

network of the network provider X receives a permanently defined address. Finally, a loop 23 is connected to the signaling outputs of the message transfer part areas 24 and 25, as a result of which a direct connection is effected between the message transfer part areas 24 and 25 which are strictly isolated per se.

Paragraph beginning on line 31 of page 10 has been amended as follows:

The loop 23 can be connected, for example, via an external connecting cable. The connecting cable can be either a PCM30 cable and connected directly to the PCM30 line accesses of the switching center, ~~but only~~ the signaling channels ~~are being~~ transmitted. On the other hand, the loop can also be produced via a direct connection of the signaling terminal without involving the switching center peripherals.

Paragraph beginning on line 8 of page 12 has been amended as follows:

According to the invention, both the network provider X and the network provider Y can thus access the ITU signaling network Nat0 and directly select the addresses stored there. From the point of view of the external observer, this ~~thus~~ provides access to the switching center by ~~means of~~ a number of point codes, i.e. addressing by ~~means of~~ a number of signaling point codes.

Paragraph beginning on line 16 of page 12 has been amended as follows:

Figure 2 shows a simplified block diagram of a conventional communication network which ~~must be is~~ consolidated in a simple manner by ~~means of~~ the present invention. The communication network according to figure 2 ~~consists of~~ includes the four switching centers 19, 20, 21 and 22. Switching centers 19 to 22 are connected to one another via CCS7 links and operate with the network identification NI = Nat0. Switching centers 19 and 22 and switching centers 20 and 21 are in each case connected via CCS7 trunks.

Paragraph beginning on line 32 of page 12 has been amended as follows:

Figure 3 shows a simplified block diagram of the communication network according to figure 2, where the required network consolidation has been carried out according to the invention. As in figure 2, reference symbols 21 and 22 designate the switching centers with point codes PC=C and D. However, reference symbol 20' now designates a remote switching unit RSU B in which the intelligent switching functions have been relocated into switching center 19'. Thus, it ~~only~~ establishes the access to the subscriber terminals but does not otherwise have any complex switching functions.

Paragraph beginning on line 3 of page 14 has been amended as follows:

To ~~completely~~ implement the consolidation according to figure 3, ~~it is now only necessary to establish~~ a link 26 is established between the remote switching unit 20' (RSUB) and the switching center 19' by means of multiple point codes if these are not already present. The modified switching center 19' now operates as host (PC=A) and additionally takes over the switching function of the previous switching center 20 (PC=B). The previous link LS4 (Nat0) according to figure 2 is implemented by the loop 23 according to figure 3 and the previous link LS1 (Nat0) according to figure 2 is replaced by the links LS1 and LS1' (Nat0) according to figure 3. In this arrangement, the links LS1 and LS1' represent a common link with the originating/destination objects 21 and 25, the remote switching unit 20' (RSU) remaining transparent and not being able to feed in its own signaling.

On page 16, line 1, please replace "Patent Claims" with --WHAT IS CLAIMED IS--.

In the Claims:

1. (Amended) A method for implementing multiple point codes in a switching center (~~+~~) with a message transfer part (~~3'; 19'~~) for transmitting/receiving signaling data (~~MSU~~) in a multiplicity of isolated message transfer part areas (~~24, 25~~) for isolated signaling networks (~~Nat0~~,

~~Nat1, INat0, INat1~~) having different network identifications (~~NI~~) and a different or nonexistent point code (~~6000; A~~), consisting of the following steps: comprising:

selecting a used message transfer part area; (~~24~~);
detecting a the network identification (~~NI~~) of the a used message transfer part area (~~24~~);
selecting an unused message transfer part area; (~~25~~);
setting up or adapting the a network identification (~~NI~~) of the unused message transfer part area (~~25~~) to the network identification (~~NI~~) of the used message transfer part area; (~~24~~);
assigning a new point code (~~5999; B~~) for the unused message transfer part area; (~~25~~) and
connecting a loop (~~23~~) between the used and unused message transfer part areas (~~24, 25~~).

2. (Amended) The method as claimed in claim 1, wherein ~~characterized in that~~ the signaling networks are signaling networks in the common channel signaling system No. 7 and the signaling data (~~MSU~~) are message signal units.

3. (Amended) The method as claimed in claim 1, ~~or 2, characterized in that~~ the loop (~~23~~) is an external connecting cable.

4. (Amended) The method as claimed in claim 2, wherein ~~characterized in that~~ the loop (~~23~~) is an internal CCS7 loop.

5. (Amended) The method as claimed in claim 4, ~~characterized in that~~ wherein the loop (~~23~~) is implemented by a software patch.

In the Abstract:

Please replace the Abstract in its entirety with the Abstract attached hereto.

METHOD FOR IMPLEMENTING MULTIPLE POINT CODES IN A SWITCHING CENTER

Abstract

The invention relates to a method for implementing multiple point codes in a switching center, for example, both network consolidation and the connection of other network providers is possible in a preexisting network. In this arrangement, a network identification of an unused message transfer part area is adapted to a network identification of a used message transfer part area, a new point code is assigned to the unused message transfer part area, and a loop is connected between the used and unused message transfer part areas.

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Description

Method for implementing multiple point codes in a switching center

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As a rule, communication networks connect at least two subscriber terminals to one another via a number of line sections and switching centers in order to exchange messages (e.g. voice, data, text or images). In call control, or respectively, call set-up and in the use of service attributes, control information must be transmitted between the switching centers. Digital, computer-controlled communication networks, in particular, provide a much wider range of services compared with analog communication networks, which is why a new high-performance signaling system has been introduced in digital computer-controlled communication networks.

The CCITT (now ITU, International Telecommunication Union) has, therefore, specified the common channel signaling system No. 7 (CCS7) which is optimized for use in digital networks.

In contrast to the channel-associated signaling hitherto used, the signaling messages are conducted via separate signaling links in CCS7. In this arrangement, a signaling link can transport the signaling messages for a large number of trunks.

In a communication network, the signaling links of the CCS7 connect signaling points or signaling nodes to one another. The signaling points and the signaling links thus form an independent signaling network which is superimposed on the trunk network. The signaling end points are the sources and sinks of the signaling traffic and are primarily implemented by the switching centers in a communication

network. The signaling transfer points switch received signaling messages to another signaling transfer point or to a signaling end point by means of the destination address (destination point code, DPC). There is no switching-type processing of the signaling messages in a signaling transfer point. A signaling transfer point can be integrated in a signaling end point (e.g. a switching center) or form its own node in the signaling network. Depending on the size of the network, one or more levels of signaling transfer points are possible.

All signaling points in a predetermined signaling network (ITU network) are identified by, for example, a 14-bit point code (PC) in a numbering plan defined by the ITU and can thus be selectively addressed in a message signal unit (MSU).

Figure 4 shows a simplified block diagram of a conventional communication network. In figure 4, the reference symbol 1 designates a switching center (VST) which, for example, is located in the city of Munich and has a point code PC of 6000. The digits (14 bits) of such a point code PC specify the maximum number of switching centers in a national network and are usually 14 bits. Exceptions to this are the USA with a 24-bit ANSI standard and China with a 24-bit ITU standard. This point code PC issued throughout the network provides for unambiguous addressing of all switching centers existing in the network.

In figure 4, such subscriber terminals are designated by the reference symbols 9 and 10 which are connected to their associated switching centers via a two-wire line. The reference symbol 2 designates another switching center which is located, for example, in the city of Stuttgart and has the point code

PC (or address, respectively) of 7000. Each of these switching centers 1 and 2 has a message transfer part 3 and 4 (MTP). The reference symbols 5, 6, 7 and 8 designate signaling transfer points which are integrated, for example, in other switching centers. Such switching centers can be located, for example, in Nuremberg, Frankfurt, Mannheim and Karlsruhe and have the associated point codes 6001, 6002, 7001 and 7002. In figure 4, furthermore, dashed lines designate CCS7 links and continuous lines designate CCS7 trunks.

To set up, for example, a voice connection from subscriber terminal 9 to subscriber terminal 10 via the CCS7 trunk, approx. 20 messages signal units (MSU) are necessary which are protected via the dashed CCS7 links and the interposed switching centers 5, 6, 7 and 8 and are transmitted in a certain sequence.

Figure 5 shows a section of such a message signal unit MSU which is transmitted in the signaling network. In this arrangement, the reference symbol 11 designates a 14-bit origination point code (OPC) and the reference signal 12 designates a 14-bit destination point code (DPC). In this arrangement, the origination point code OPC corresponds to an origination address in the signaling network and the destination point code DPC specifies the destination address. In the communication network according to figure 4, in consequence, the origination code would have the value 6000 for switching center 1 in Munich and the destination point code would have the value 7000 for the switching center 2 in Stuttgart when a connection is set up from subscriber terminal 9 to subscriber terminal 10. To set up the connection, in consequence, a multiplicity of message signal units MSU would be forwarded over the signaling network, the message signal unit MSU according to figure 5 exhibiting the

origination point code OPC and the destination point code DPC to achieve unambiguous correlation.

According to figure 5, the reference symbol 13 designates a number of bits in the message signal unit MSU which provide for network identification (NI). According to the ITU standard, such a network identification NI consists of two bits and specifies by this means the four mutually separate ITU networks INat0, INat1, Nat0 and Nat1.

Using this network identification, each switching center can precisely isolate different ITU networks from one another, as is necessary, for example, for separating the national network (Nat0) from the international network (INat0). The network identifications INat1 and Nat1 can be used as guard networks or separating networks so that the extremely sensitive signaling data in the various networks can be cleanly separated from one another.

Since the monopoly in the field of telecommunications has been removed, there is now a requirement to connect different network providers to a single switching center. For safety reasons, however, it must be possible to address the respective networks of the network providers precisely and to separate them from the existing signaling networks, which is why there is a requirement for further point codes in the switching centers.

Furthermore, there is an increasing requirement for network consolidation, i.e. combining switching centers in order to obtain cost savings by this means. When two or more switching centers are combined in this manner, however, it is also necessary to implement a multiple point code in a switching center, for cost reasons, since the point codes (addresses) already existing in a network may not be changed under any circumstances. Since the switching in the network

point codes would cause inefficient expenditure for changing the respective tables of the various switching centers in the network.

- 5 In the same manner, however, the implementation of a multiple point code in a switching center means similarly costly modification or new generation of the existing switching hardware and software.

- 10 The invention is, therefore, based on the object of specifying a method for implementing multiple point codes in a switching center, in which a minimal and inexpensive modification of switching centers already existing is sufficient.

According to the invention, this object is achieved by means of the measures of claim 1.

- 15 A multiple point code can be implemented in an extremely simple and inexpensive manner in the switching center especially by adapting a network identification in an unused message transfer part area to a network identification of a used message transfer part area, assigning a new point code for the unused message transfer part area and connecting a loop between the used and unused message transfer part areas. This implementation of multiple point codes is very important, especially in the market of alternative carriers, for the following reasons:
- 20
- 25

1. A remotely controlled switching center (RSU) is an extremely interesting product for network consolidation. A prerequisite for this, however, is a separate address (point code) for each RSU. Especially in the future in Germany, a network operator will only be recognized as being such (and thus enjoy the advantageous interconnection tariffs) if a minimum number of points of interconnection (POIs) to the network provider
- 30

is available. For long distance carriers, for example, the demand for 23 POIs seems to be gaining dominance. To avoid difficulties, all POIs should therefore be addressable with different destination point codes (DPCs).

2. In the reseller process, one switching center is used by two carriers having different carrier access codes (CACs). In the future, however, certain carriers will only agree to an interconnection if each CAC can also be addressed with its own destination point code.

3. For some carriers, the capacity of POIs of 4096 trunk lines which are to be set up at a maximum with an origination point code/destination point code combination (12-bit-long CAC) is inadequate.

Advantageous embodiments of the invention are characterized in the subclaims.

In the text which follows, the invention will be explained in greater detail by means of exemplary embodiments and referring to the drawing, in which:

figure 1 shows a simplified block diagram of a signaling network according to a first exemplary embodiment;

figure 2 shows a simplified block diagram of a conventional communication network to be consolidated;

figure 3 shows a simplified block diagram of a consolidated communication network according to a second exemplary embodiment;

figure 4 shows a simplified block diagram of a conventional communication network; and

figure 5 shows a section of a message signal unit transmitted in the signaling network.

- 5 Figure 1 shows a simplified block diagram of a part of a communication network according to a first exemplary embodiment. In figure 1, identical reference symbols designate identical or similar functional elements to those in figure 5. A subscriber terminal is
10 connected to a switching center (VST) 1 of a network provider Y via a two-wire line. The point code PC (or address, respectively) of the switching center 1 has the value 6000. The reference symbol 3' designates a message transfer part (MTP) in which a multiple point
15 code is implemented. The reference symbol 7' designates another switching center of the network provider Y and the reference symbol 5' designates a switching center of a network provider X. According to figure 1, the network provider X is to be able to operate in the same
20 ITU signaling network Nat0 as the network provider Y.

- In the course of liberalization, it is very important for a network operator to distinguish or identify, respectively, the other alternative network operators with the aid of different point codes. This
25 applies both to adjacent switching centers of different network operators and in the case where two carriers are jointly maintaining one switching center. Since an implementation of multiple point codes for each signaling network would mean very extensive changes of
30 existing software (and possibly even hardware), the invention makes use of the existing resources in a switching center implemented according to the ITU standard. A switching center can be flexibly set up with point codes per ITU network, with the networks
35 actually remaining strictly separated. If it is then possible (as in the EWSD for example) to cover

two separate networks with the same ITU network indicator and different point codes, it is then only necessary to "bridge" the network isolation. According to the present invention, use is made here of a surprising effect according to which a direct connection of different ITU networks implemented in the switching center operates against all expectations.

More precisely, a message transfer part 3' consists of a multiplicity of message transfer part areas 24, 25 etc. As has already been described above, these message transfer part areas define the different ITU networks and are selected by the network identification NI in the message signal unit MSU. The Siemens EWSD switching center V12, for example, has exactly one point code PC (address) per ITU network Nat0, Nat1, INat0 and INat1. Normally, the message transfer part areas 24, 25 etc. are strictly separated in a switching center for the ITU networks Nat0, Nat1, INat0 and INat1, since direct switching or linking of these networks should not be carried out under any circumstances.

According to the present invention, however, this isolation of the message transfer part areas 24 and 25 for the ITU networks Nat0 and Nat1 is used to the effect that the network of the network provider X is isolated from the network of the network provider Y. Such isolation of the networks of the various providers provides, for example, for mutual accounting and checking of the transmitted signaling data. This largely eliminates putting the respective networks at risk.

Such a strict isolation of the various networks of different network providers which, however, want to access the same ITU network Nat0 can be implemented in a very simple manner

as follows by utilizing the software and hardware already existing in the switching center (VST).

At first, a used message transfer part area is selected. According to figure 1, this is the message transfer part area 24 which is already used for the ITU network Nat0 by network provider Y. Then an unused message transfer part area 25 is selected which was originally provided, for example, for the network identification Nat1 or any other idle (internal) network. In the next step, the network identification Nat1 of the unused message transfer part area 25 is adapted to the network identification Nat0 of the used message transfer part area 24. This means that the message transfer part area 25 is set up or modified in such a manner that it identifies itself with network identification Nat0 toward the outside even though it operates separately from the network internally. This ensures that the strict isolation of the message transfer part areas 24 and 25 is still retained internally (as in the case of ITU networks Nat0 and Nat1). After the network identification NI in the unused message transfer part area 25 has been adapted, a new point code PC = 5999 is assigned to this area, as a result of which the access point for the network of the network provider X receives a permanently defined address. Finally, a loop 23 is connected to the signaling outputs of the message transfer part areas 24 and 25, as a result of which a direct connection is effected between the message transfer part areas 24 and 25 which are strictly isolated per se.

The loop 23 can be connected, for example, via an external connecting cable. The connecting cable can be either a PCM30 cable and connected directly to the PCM30 line accesses of the switching center, but only the signaling channels are transmitted. On the other hand, the loop can also be produced via a direct

There is also the possibility of connecting an internal CCS7 loop by "nailed-up" commands, using a software patch. However, the invention is not restricted to these possibilities but, instead, comprises all loops which provide for a transparent data channel for the signaling data from a used area to an unused area of the message transfer part.

According to the invention, both the network provider X and the network provider Y can thus access the ITU signaling network Nat0 and directly select the addresses stored there. From the point of view of the external observer, this thus provides access to the switching center by means of a number of point codes, i.e. addressing by means of a number of signaling point codes.

Figure 2 shows a simplified block diagram of a conventional communication network which must be consolidated in a simple manner by means of the present invention. The communication network according to figure 2 consists of the four switching centers 19, 20, 21 and 22. Switching centers 19 to 22 are connected to one another via CCS7 links and operate with the network identification NI = Nat0. Switching centers 19 and 22 and switching centers 20 and 21 are in each case connected via CCS7 trunks.

During a network consolidation, switching center 20 (PC=B) is now to be operated as remotely controlled switching center (RSU B) and its switching function is to be integrated in switching center 19 (PC=A). In particular, this results in savings in the operating costs of the network providers.

Figure 3 shows a simplified block diagram of the communication network according to figure 2, where the required network

consolidation has been carried out according to the invention. As in figure 2, reference symbols 21 and 22 designate the switching centers with point codes PC=C and D. However, reference symbol 20' now designates a remote switching unit RSU B in which the intelligent switching functions have been relocated into switching center 19'. Thus, it only establishes the access to the subscriber terminals but does not otherwise have any complex switching functions.

Due to the fact that the ITU signaling network Nat0 already in existence has a multiplicity of switching centers with associated tables and programs, however, a deletion of the earlier switching center 20 (PC=B) would require extensive changes to all programs and tables in the remaining switching centers in the ITU signaling network. To prevent such costly reprogramming of preexisting switching software, it is necessary to retain the point code PC of the switching center 20 (PC=B) and to implement it additionally in switching center 19 with point code PC=A. It is thus again necessary to implement multiple point codes in a switching center.

Multiple point codes are implemented in this manner in the switching center 19' in the same manner as in the exemplary embodiment according to figure 1. More precisely, the message transfer part MTP of the switching center 19' is modified in such a manner that an unused message transfer part area 25 receives the same network identification NI = Nat0 as the message transfer part area 24 which is already used. After that, the point code PC belonging to the message transfer part area 25, which initially does not have its own address, is set up with the address or, respectively, the value B. Finally, a signaling channel of the message transfer part area 24 is switched through to a signaling channel of the message transfer part area 25 via a loop,

which results in the transparent transmission of signaling data.

To completely implement the consolidation according to figure 3, it is now only necessary to establish a link 26 between the remote switching unit 20' (RSUB) and the switching center 19' by means of multiple point codes if these are not already present. The modified switching center 19' now operates as host (PC=A) and additionally takes over the switching function of the previous switching center 20 (PC=B). The previous link LS4 (Nat0) according to figure 2 is implemented by the loop 23 according to figure 3 and the previous link LS1 (Nat0) according to figure 2 is replaced by the links LS1 and LS1' (Nat0) according to figure 3. In this arrangement, the links LS1 and LS1' represent a common link with the originating/destination objects 21 and 25, the remote switching unit 20' (RSU) remaining transparent and not being able to feed in its own signaling.

In the present invention, the message transfer part areas for network identification NI = Nat0 and NI = Nat1 were connected to one another, but all other unused message transfer part areas can also be connected to another message transfer part area and modified. In addition, the present invention can also be applied to a Siemens EWSD V13 switching center in which up to 32 different point codes can be used arbitrarily in the respective ITU network (Nat0, Nat1, INat0 or INat1) toward the outside. In this arrangement, internal multiple networks are flexibly associated with the ITU network by means of preexisting commands during the setting up of the network. However, the invention can also be applied to all other switching centers which implement strict isolation of the ITU networks and in which modification of

Patent claims

1. A method for implementing multiple point codes in a switching center (1) with a message transfer part (3'; 19') for transmitting/receiving signaling data (MSU) in a multiplicity of isolated message transfer part areas (24, 25) for isolated signaling networks (Nat0, Nat1, INat0, INat1) having different network identifications (NI) and a different or nonexistent point code (6000; A), consisting of the following steps:
- selecting a used message transfer part area (24),
detecting a network identification (NI) of the used message transfer part area (24),
15 selecting an unused message transfer part area (25),
setting up or adapting a network identification (NI) of the unused message transfer part area (25) to the network identification (NI) of the used message transfer part area (24),
20 assigning a new point code (5999; B) for the unused message transfer part area (25) and
connecting a loop (23) between the used and unused message transfer part areas (24, 25).
2. The method as claimed in claim 1, characterized in that the signaling networks are signaling networks in the common channel signaling system No. 7 and the signaling data (MSU) are message signal units.
3. The method as claimed in claim 1 or 2, characterized in that the loop (23) is an external connecting cable.
- 30 4. The method as claimed in claim 2,

characterized in that the loop (23) is an internal CCS7 loop.

5. The method as claimed in claim 4, characterized in that the loop (23) is implemented by a software patch.
- 5

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Abstract

Method for implementing multiple point codes in a switching center

The invention relates to a method for implementing multiple point codes in a switching center, by means of which, for example, both network consolidation and the connection of other network providers is possible in a preexisting network. In this arrangement, a network identification of an unused message transfer part area (25) is adapted to a network identification of a used message transfer part area (24), a new point code is assigned to the unused message transfer part area (25), and a loop (23) is connected between the used and unused message transfer part areas.

Figure 1

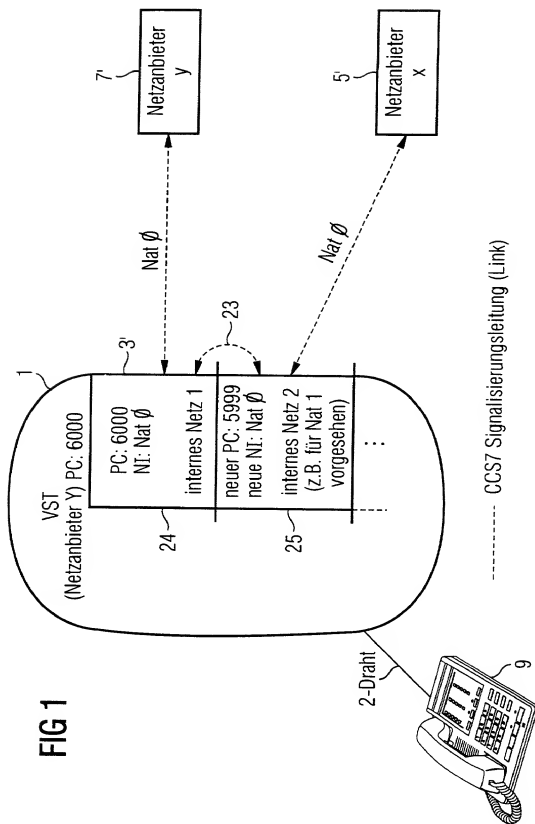


FIG 2 Stand der Technik

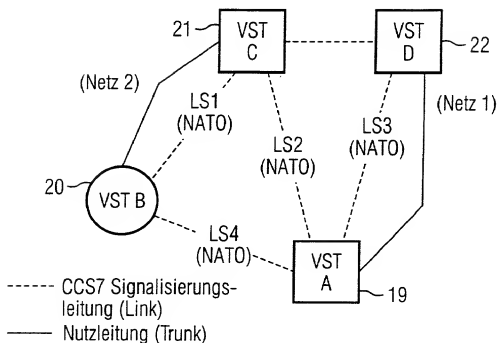


FIG 3

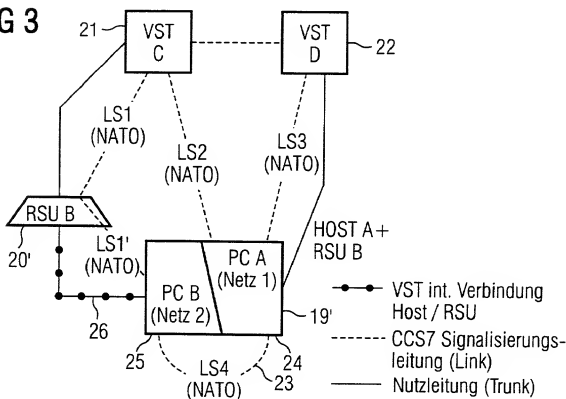


FIG 4 Stand der Technik

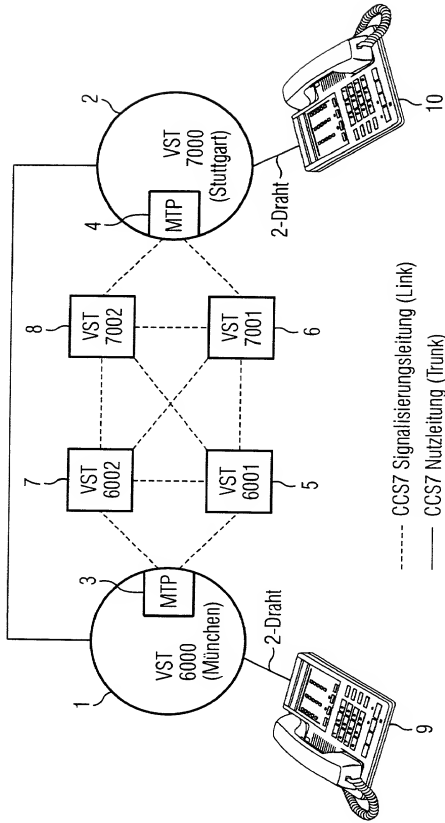
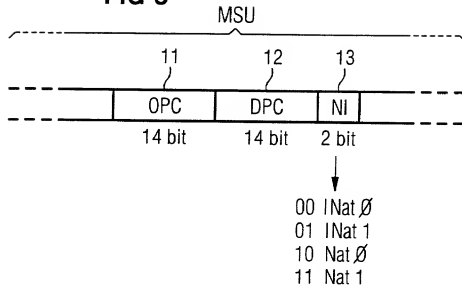


FIG 5



Declaration and Power of Attorney For Patent Application

Erklärung Für Patentanmeldungen Mit Vollmacht

German Language Declaration

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Verfahren zur Realisierung von
Mehrfach-Punktcodes in einer
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deren Beschreibung

(zutreffendes ankreuzen)

☐ hier beigelegt ist.

☒ am 14.01.2000 als

PCT internationale Anmeldung

PCT Anmeldungsnummer PCT/DE00/00127

eingereicht wurde und am

abgeändert wurde (falls tatsächlich abgeändert).

Ich bestätige hiermit, dass ich den Inhalt der obigen Patentanmeldung einschliesslich der Ansprüche durchgesehen und verstanden habe, die eventuell durch einen Zusatzantrag wie oben erwähnt abgeändert wurde.

Ich erkenne meine Pflicht zur Offenbarung irgendwelcher Informationen, die für die Prüfung der vorliegenden Anmeldung in Einklang mit Absatz 37, Bundesgesetzbuch, Paragraph 1.56(a) von Wichtigkeit sind, an.

Ich beanspruche hiermit ausländische Prioritätsvorteile gemäss Abschnitt 35 der Zivilprozessordnung der Vereinigten Staaten, Paragraph 119 aller unten angegebenen Auslandsanmeldungen für ein Patent oder eine Erfindersurkunde, und habe auch alle Auslandsanmeldungen für ein Patent oder eine Erfindersurkunde nachstehend gekennzeichnet, die ein Anmeldedatum haben, das vor dem Anmeldedatum der Anmeldung liegt, für die Priorität beansprucht wird.

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

Method for implementing multipoint
codes in an exchange

the specification of which

(check one)

☐ is attached hereto.

☒ was filed on 14.01.2000 as

PCT international application

PCT Application No. PCT/DE00/00127

and was amended on _____
(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims as amended by any amendment referred to above.

I acknowledge the duty to disclose information which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, §1.56(a).

I hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

German Language Declaration

Prior foreign applications
Priorität beansprucht

Priority Claimed

19901204.0

DE

14.01.1999

☒

☐

(Number)
(Nummer)

(Country)
(Land)

(Day Month Year Filed)
(Tag Monat Jahr eingereicht)

Yes
Ja

No
Nein

(Number)
(Nummer)

(Country)
(Land)

(Day Month Year Filed)
(Tag Monat Jahr eingereicht)

☐

☐

Yes
Ja

No
Nein

(Number)
(Nummer)

(Country)
(Land)

(Day Month Year Filed)
(Tag Monat Jahr eingereicht)

☐

☐

Yes
Ja

No
Nein

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I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §122, I acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application.

PCT/DE00/00127

(Application Serial No.)
(Anmeldeseriennummer)

14.01.2000

(Filing Date D, M, Y)
(Anmeldedatum T, M, J)

(Status)

(patentiert, anhängig,
aufgegeben)

(Status)

(patented, pending,
abandoned)

(Application Serial No.)
(Anmeldeseriennummer)

(Filing Date D,M,Y)
(Anmeldedatum T, M, J)

(Status)

(patentiert, anhängig,
aufgeben)

(Status)

(patented, pending,
abandoned)

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German Language Declaration

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Unterschrift des Erfinders: <u>[Signature]</u>	Datum: <u>20.6.01</u>	Inventor's signature	Date
Wohnsitz: <u>MUENCHEN, DEUTSCHLAND</u>		Residence: <u>MUENCHEN, GERMANY</u>	
Staatsangehörigkeit: <u>DE</u>		Citizenship: <u>DE</u>	
Postanschrift: <u>KALTENBRUNNERSTR.2</u>		Post Office Address: <u>KALTENBRUNNERSTR.2</u>	
<u>81477 MUENCHEN</u>		<u>81477 MUENCHEN</u>	
Voller Name des zweiten Miterfinders (falls zutreffend):		Full name of second joint inventor, if any:	
Unterschrift des Erfinders	Datum	Second inventor's signature	Date
Wohnsitz		Residence	
Staatsangehörigkeit		Citizenship	
Postanschrift		Post Office Address	

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(Supply similar information and signature for third and subsequent joint inventors).